Genetics

POPULATION GENETICS OF GREAT LAKES ZEBRA MUSSELS (*Dreissena polymorpha*).
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Zebra mussels (*Dreissena polymorpha*) are an invasive species introduced into the Great lakes in 1986. Since then, they have spread aggressively throughout the Great Lakes region and throughout the eastern United States. They have had a significant impact on the ecology of the Great Lakes and have already been responsible for a substantial decrease in mollusc biodiversity. Cellulose acetate gel electrophoresis was used in order to develop genetic markers for evaluating the population genetic structure of Zebra mussel populations in Lake Huron and the Saginaw Bay as well as river and smaller inland lake populations in the Saginaw Valley drainage basin in eastern Michigan. Genotypes were scored for forty-eight individuals from several populations, and allele frequencies and genotype frequencies were calculated. The data allow the assessment of several important genetic parameters, including estimates of genetic diversity, population substructure, gene flow and genetic divergence between populations, and possible selection pressures. The results have important implications for the determination of dispersal mechanisms, the effects of genetic drift and founder effects in aggressive invasive species, and evaluation of the genetic impact of bioremediation programs.